

CLAIMS:

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1. An image sensor for sensing the light of an image impinging thereupon and for translating the image into a standard television format, said image sensor comprising a plurality of first and second light detecting elements arranged in rows and columns for generating respective analog signals in proportion to the intensity of the light impinging respectively on each of said light detecting elements, characterized in that said first and second light detecting elements in each row are alternately disposed and activated by first read lines to generate odd field signals, and in that said first and second light detecting elements in two adjacent rows disposed in a serrated manner are activated by second read lines to generate even field signals.
2. The image sensor of Claim 1, wherein each of said first and second light detecting elements further comprises a translating means comprising a reset transistor for resetting the initial state of a photodiode in each of said first and second light detecting elements, a source follower transistor for buffering said analog signals and two access transistors coupled in parallel to said source follower.
3. The image sensor of Claim 1, wherein said light detecting elements in two adjacent rows disposed in a serrate manner activated by said second read lines substantially have average vertical location between said two adjacent rows, and wherein the components of said first and second field signals are correlated with one another and the time difference thereof is less than 1/60 second, thereby improving the quality of said image displayed in a television.
4. The image sensor of Claim 1, wherein each of said first light detecting element further comprises two access transistors coupled in parallel and activated by said first read line and second read line, respectively, connected at the respective gates thereof, and wherein each of

said-second light detecting element comprises two access transistors coupled in parallel and activated by said first read line and another second read line, respectively, connected at the respective gates thereof.

5. A light detecting element for use in a CMOS active pixel image sensor for generating an analog signal in proportion to the intensity of the light impinging respectively thereon, said light detecting element comprising:

10 a translating means comprising a reset transistor for resetting the initial state of a photodiode in said light detecting element;
a source follower transistor for buffering said analog signal; and
two access transistors coupled in parallel to said source follower.

6. The light detecting element of Claim 5, wherein said two access transistors coupled in parallel are activated by a first read line and second read line, respectively, connected at the respective gates thereof.

15 7. A method for use in an image sensor for sensing the light of an image impinging thereupon and for translating the image into a selected television format, said image sensor comprising a plurality of first and second light detecting elements arranged in rows and columns for generating respective analog signals in proportion to the intensity of the light impinging respectively on each of said light detecting elements, the 20 method comprising the steps of:

25 (1) providing a plurality of first and second light detecting elements arranged in rows and columns for generating respective analog signals in proportion to the intensity of the light impinging respectively on each of said light detecting elements, wherein said first and second light detecting elements in each row are alternately disposed and commonly coupled to first read lines, and said first and second light detecting elements in two adjacent

- rows are disposed in a serrate manner and commonly coupled to second read lines;
- (2) generating respective analog signals in proportion to the intensity of the light impinging on each of said first and second light detecting elements;
- (3) sequentially activating said first read lines and then said second read lines; and
- (4) obtaining said analog signals acquired in said first and second light detecting elements, respectively, in response to the sequential activation of said first and second read lines to generate odd field signals and even field signals, respectively.